IN THE CLAIMS:

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1. Reaction chambers coated with native, synthetically or enzymatically prepared nucleic acids, wherein said coating is performed non-covalently with a mixture of calibrated nucleic acids said standard nucleic acids and carrier nucleic acids at the surface of the inner walls of reaction chambers which neither requires chemical nor biochemical modification prior coating."

2. Reaction chambers according to claim 1, wherein they are comprised of glass or plastic vessels or of glass capillaries.

3. Reaction chambers according to claim 1, wherein said DNA, RNA, synthetic equivalents of DNA and/or RNA, as well as dU-containing DNA are used as standard nucleic acids.

4. Reaction chambers according to claim 1, wherein said, a) for the dilution of DNA standards, a DNA solution is used comprising a minimum sequence homology to the nucleic acid compound to be analyzed, and b) a

tRNA solution is used for the dilution of the RNA standards.

5. Reaction chambers according to claim 1, wherein said carrier nucleic acid is DNA of the lambda phage which is converted into readily soluble fragments of a mean length of about 1 - 2 kb by means of ultrasonic treatment.

6. Method for the production of reaction chambers according to claim 1, wherein said calibrated standard nucleic acids and added carrier nucleic acids are directly aliquoted into reaction chambers, and are subsequently non-covalently adsorbed directly in the inner wall of the reaction chamber by means of freeze-drying or vacuum-centrifugating lyophilization.

7. Method according to claim 6, wherein plastic vessels or glass capillaries are coated.

8. Method according to claim 6, wherein said DNA, RNA, synthetic equivalents and/or RNA, as well as dU-containing DNA are used as nucleic acids.

9. Method according to claim 6, wherein said, a) for the dilution of DNA standards, a DNA solution is used comprising a minimum sequence homology to the nucleic acid compound to be analyzed, and b) a tRNA solution is used for the dilution of the RNA standards.

10. Method according to claim 6, wherein said carrier nucleic acid is DNA of a lambda phage which is converted into readily soluble fragments of a mean length of about 1 - 2 kb by means of ultrasonic treatment.

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11. Method according to claim 6, wherein reaction chambers are, if necessary, simultaneously coated with a multitude (i.e. at least two) of application-specific calibrated nucleic acids of different cellular or organic origin, or originating from different species.

12. Method according to claim 6, wherein said coating is performed of at least 96 reaction chambers which are arranged in a microtiter format and which comprise at least 12x 8-well strips containing carrier nucleic acids and calibrated nucleic acids while the arbitrarily choosen concentration of each calibrated nucleic acid differs stepwise

from well to well (highest concentration in A1-A12, lowest concentration in H1-H12) in order to cover the entire concentration range of the analyte nucleic acid to be measured.

13. Method according to claim 6, wherein the coated reaction chambers are sealed and standing upright in an appropriate carrier box receiving at least 96 vessels.

14. Method according to claim 6, wherein apart from the calibrated standard nucleic acids, at least two oligonucleotides acting as primers or probes which are either 5`- and/or 3`- labeled with a fluorescent or non-fluorescent chromophore or unlabeled, the carrier nucleic acid and further components required for enzymatic nucleic acids amplification are contained in the reaction chambers in a lyophilized formulation, or at least two oligonucleotides acting as primers or probes, the carrier nucleic acid and further components required for enzymatic nucleic acids amplification are contained in separate vessels without said standard nucleic acids in a lyophilized formulation.

15. Method according to claim 6 further comprising

using the reaction chambers coated with nucleic acids in test kits for the detection of selected nucleic acids in biological substances.

16. Method according to claim 15 further comprising

using test kits comprised of an octet strip of closed reaction chambers coated with eight different nucleic acid concentrations and closed with a film / foil, of at least two oligonucleotides, as well as one carrier nucleic acid.

17. A method for producing reaction chambers comprising

employing a chamber wherein calibrated standard nucleic acids and added carrier nucleic acids are directly aliquoted into the chamber,

lyophilizing the calibrated standard nucleic acids and the added carrier nucleic acids by freeze-drying or vacuum-centrifugating; and

non-covalently adsorbing directly the calibrated standard nucleic acids and the added carrier nucleic acids in the inner wall of the chamber and thereby producing a reaction chamber.

18. The method according to claim 17 further comprising coating plastic vessels or glass capillaries.

19. The method according to claim 17 further comprising employing DNA, RNA, synthetic equivalents and/or RNA, as well as dU containing DNA as nucleic acids.

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20. The method according to claim 17 further comprising employing a DNA solution comprising a minimum sequence homology to the nucleic acid compound to be analyzed for a dilution of DNA standards, and
employing a tRNA solution for a dilution of RNA standards.

21. The method according to claim 17 further comprising employing a DNA of a lambda phage as a carrier nucleic acid, and converting the DNA of the lambda phage into readily soluble fragments of a mean length of about 1 - 2 kb by means of ultrasonic treatment.

22. The method according to claim 17 further comprising

simultaneously coating the reaction chamber with a multitude of application-specific calibrated nucleic acids of different cellular or organic origin, or originating from different species.

23. The method according to claim 17 further comprising

performing coating of at least 96 reaction chambers which are arranged in a microtiter format and which comprise at least 12x 8-well strips containing carrier nucleic acids and calibrated nucleic acids while the arbitrarily choosen concentration of each calibrated nucleic acid differs stepwise from well to well (highest concentration in A1-A12, lowest concentration in H1-H12) in order to cover the entire concentration range of the analyte nucleic acid to be measured.

24. The method according to claim 17 further comprising

sealing coated reaction chambers; and

standing the coated reaction chambers upright in an appropriate carrier box receiving at least 96 vessels.

25. The method according to claim 17 further comprising

employing at least two oligonucleotides acting as primers or probes which are either 5`- and/or 3`- labeled with a fluorescent or non-fluorescent chromophore or unlabeled apart from the calibrated standard nucleic acids; containing the carrier nucleic acid and further components required for enzymatic nucleic acids amplification in the reaction chambers in a lyophilized formulation, or at least two oligonucleotides acting as primers or probes; and

containing the carrier nucleic acid and further components required for enzymatic nucleic acids amplification in separate vessels without said standard nucleic acids in a lyophilized formulation.

26. The method according to claim 17 further comprising

forming a test kit for a detection of selected nucleic acids in biological substances with the reaction chamber.

27. The method according to claim 17 further comprising

forming a test kit comprising an octet strip of closed reaction chambers coated with eight different nucleic acid concentrations and closed with a film / foil, of at least two oligonucleotides, as well as one carrier nucleic acid.

28. The method according to claim 17 further comprising

forming a test kit comprising a strip of eight reaction vesselsl coated with eight different amounts of at least one calibrated standard nucleic acid, carrier nucleic acid and at least two oligonucleotides and which is sealed with an appropriate self-adhesive foil.

29. A reaction chamber obtained by employing a method for producing reaction chambers comprising

employing a chamber wherein calibrated standard nucleic acids and added carrier nucleic acids are directly aliquoted into the chamber;

lyophilizing the calibrated standard nucleic acids and the added carrier nucleic acids by freeze-drying or vacuum-centrifugating; and

non-covalently adsorbing directly the calibrated standard nucleic acids and the added carrier nucleic acids in the inner wall of the chamber and thereby producing a reaction chamber.